Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A method ~~of~~ <u>executed on hardware for</u> providing biological analyses to a remote client~~;~~<u>,</u> said method comprising:

    providing a plurality of discrete sample nodes each configured to receive a discrete sample and removably attached at a corresponding attachment point in a predetermined spatial relationship with other discrete sample nodes on a sample structure<u>,</u> <u>wherein each of said plurality of discrete samples nodes comprises a sample support medium constructed and operative to contain a biological sample in desiccated form for long-term storage</u>;

    transferring a sample to each of said plurality of discrete sample nodes independently of sample transfers to the other discrete sample nodes wherein the corresponding attachment point of each discrete sample node is maintained free of sample material;

    maintaining said plurality of discrete sample nodes in a sample archive;

    receiving a request for a biological analysis from a remote client~~;~~<u>,</u> said request comprising identification of a desired one of said plurality of discrete sample nodes and identification of a selected assay;

    responsive to said receiving, retrieving said desired discrete sample node from said archive and preparing said selected assay; and

    performing said selected assay for said desired discrete sample node.

2. (Original) The method of claim **1** further comprising transmitting results of said performing and data representative of said performing to said remote client.

3. (Previously Presented) The method of claim **1** further comprising shipping said desired discrete sample node to said remote client.

4.   (Original) The method of claim **1** wherein said request is received via a network connection.

5.   (Original) The method of claim **1** wherein said assay is a genomics experiment.

6.   (Currently Amended) The method of claim **1** wherein said <u>selected</u> assay is a proteomics experiment.

7.   (Currently Amended) The method of claim **1** wherein ~~said~~ retrieving said desired discrete_sample node comprises interrogating a database.

8.   (Currently Amended) The method of claim **1** wherein ~~said~~ retrieving said desired discrete_sample node comprises utilizing an optical sensor.

9.   (Currently Amended) The method of claim **1** wherein ~~said~~ retrieving said desired discrete_sample node comprises automatically operating a sample node removal device.

10.   (Original) The method of claim **9** wherein said sample node removal device comprises a laser.

11.   (Original) The method of claim **9** wherein said sample node removal device comprises a mechanical clipping tool.

12.   (Currently Amended) The method of claim **1** further comprising washing said desired discrete sample node prior to ~~said~~ performing <u>said selected assay</u>.

13.   (Currently amended) The method of claim **2** wherein ~~said~~ transmitting results of said performing and data representative of said performing comprises encrypting said results and said data.

14.   (Currently Amended) A method ~~of~~ <u>executed on hardware for</u> providing samples to a remote client~~;~~<u>,</u> said method comprising:

        maintaining a sample archive comprising a plurality of sample structures maintained in a predetermined spatial relationship within one or more sample carriers and a plurality of discrete sample nodes, <u>wherein</u> each of said plurality of discrete sample

nodes <u>comprises a sample support medium</u> ~~operative to carry~~ <u>constructed and operative to contain</u> a discrete <u>biological</u> sample <u>in desiccated form for long-term storage,</u> and <u>wherein each of said plurality of discrete sample nodes is</u> removably attached to one of said plurality of sample structures at a corresponding attachment point;

for each of said plurality of discrete sample nodes,

selecting a sample for storage at ~~each~~ <u>said</u> discrete sample node, and

discretely transferring said selected sample to said ~~each~~ discrete sample node;

receiving a request for a desired sample from a remote client;

responsive to said receiving, identifying a discrete sample node in said archive carrying said desired sample;

retrieving said identified discrete sample node from said archive, wherein said retrieving includes releasing said identified discrete sample node from said corresponding attachment point; and

shipping said ~~identified~~ <u>retrieved</u> discrete sample node to said remote client.

15. (Currently Amended) The method of claim **14** further comprising performing an analysis of said desired sample prior to ~~said~~ shipping <u>said retrieved discrete sample node</u>.

16. (Original) The method of claim **15** further comprising transmitting results of said performing and data representative of said performing to said remote client.

17. (Currently Amended) The method of claim **14** wherein ~~said~~ shipping <u>said retrieved discrete sample node</u> comprises packaging said ~~identified~~ <u>retrieved</u> discrete sample node in a sample container.

18. (Currently Amended) The method of claim **14** further comprising washing said ~~identified~~ <u>retrieved</u> discrete sample node prior to said shipping.

19. (Original) The method of claim **14** wherein said request is received via a network connection.

20.   (Currently Amended) The method of claim **14** wherein ~~said~~ identifying said discrete sample node comprises interrogating a database.

21.   (Currently Amended) The method of claim **14** wherein ~~said~~ releasing said identified discrete sample node comprises utilizing an optical sensor.

22.   (Currently Amended) The method of claim **14** wherein ~~said~~ releasing said identified discrete sample node comprises automatically operating a sample node removal device.

23.   (Original) The method of claim **22** wherein said sample node removal device comprises a laser.

24.   (Previously Presented) The method of claim **22** wherein said sample node removal device comprises a mechanical clipping tool for mechanically disrupting said corresponding attachment point.

25.   (Original) The method of claim **15** wherein said analysis is a genomics experiment.

26.   (Original) The method of claim **15** wherein said analysis is a proteomics experiment.

27.   (Currently Amended) A hardware system comprising:

a sample archive comprising a plurality of sample carriers~~;~~ each of said plurality of sample carriers configured to support a plurality of discrete sample nodes, wherein each of said plurality of discrete sample nodes is removably attached to ~~a corresponding~~ one of said plurality of sample carriers at ~~an~~ a corresponding attachment point and comprises a sample support medium ~~operative to carry~~ constructed and operative to contain a discrete biological sample in desiccated form for long-term storage;

means for discretely transferring a sample to a desired one of said plurality of discrete sample nodes;

a database containing data records associated with ones of said plurality of discrete sample nodes and data records associated with biological analyses;

means for receiving a request from a remote client~~;~~ said request containing information related to performing a selected analysis with selected ones of said plurality

of discrete sample nodes;

a processor responsive to said means for receiving <u>a request</u> and operative to retrieve selected ones of said data records from said database;

a sample retrieval apparatus responsive to said processor and operative to retrieve said selected ones of said plurality of discrete sample nodes;

an assay preparation apparatus responsive to said processor and operative to prepare an assay in accordance with said selected analysis; and

means for conducting said selected analysis with said selected ones of said plurality of discrete sample nodes and for providing results of said selected analysis to said processor,

whereby said plurality of sample carriers are configured ~~to operate~~ to prevent contamination during removal of <u>said</u> selected ones of said plurality of discrete sample nodes.

28. (Original) The system of claim **27** further comprising means for packaging said selected ones of said plurality of discrete sample nodes for shipping to said remote client.

29. (Previously Presented) The system of claim **27** wherein said sample retrieval apparatus comprises a sample carrier locator operative to detect a location of one or more sample carriers supporting said selected ones of said plurality of discrete sample nodes.

30. (Original) The system of claim **29** wherein said sample carrier locator comprises an optical sensor.

31. (Original) The system of claim **27** wherein said sample retrieval apparatus comprises a sample node removal device operative to remove said selected ones of said plurality of discrete sample nodes from said plurality of sample carriers.

32. (Original) The system of claim **31** wherein said sample retrieval apparatus further comprises an optical sensor.

33. (Original) The system of claim **32** wherein said sample node removal device is responsive to signals transmitted from said optical sensor.

34. (Original) The system of claim **31** wherein said sample node removal device comprises a laser.

35. (Currently Amended) The system of claim **33** wherein said sample node removal device comprises a laser and a mechanical positioning system operative to position said laser relative to said selected ones of said plurality of discrete sample nodes responsive to said signals transmitted from said optical sensor.

36. (Original) The system of claim **31** wherein said sample node removal device comprises a mechanical clipping tool.

37. (Currently Amended) The system of claim **33** wherein said sample node removal device comprises a mechanical clipping tool and a mechanical positioning system operative to position said mechanical clipping tool relative to said selected ones of said plurality of discrete sample nodes responsive to said signals transmitted from said optical sensor.

38. (Original) The system of claim **31** wherein said sample node removal device comprises a respective transceiver incorporated in each of said plurality of discrete sample nodes.

39. (Original) The system of claim **27** wherein said selected analysis is a genomics experiment.

40. (Original) The system of claim **27** wherein said selected analysis is a proteomics experiment.

41. (Currently Amended) A computerized method encoded by a computer program product embodied on a hardware computer-readable medium, said method comprising:

receiving a request from a remote client for performing a selected analysis of a selected sample node maintained on a sample carrier in a sample archive, wherein said sample carrier includes a plurality of sample structures, each sample structure having one or more attachment points, and a plurality of sample nodes, each of said plurality of sample nodes being removably attached to said sample carrier at a corresponding one of said attachment points, and each of said plurality of sample nodes comprises a sample

support medium constructed and operative to contain a discrete biological sample in desiccated form for long-term storage and carrying a discrete sample, said discrete sample having been individually applied to each of said plurality of sample ~~node~~ nodes;

retrieving data records associated with said selected sample node and said selected analysis from a database;

retrieving said selected sample node from said sample carrier;

preparing an assay in accordance with said selected analysis; and

conducting said selected analysis of a ~~specimen~~ sample carried on said selected sample node

wherein said plurality of sample structures is maintained in a predetermined spatial relationship with one another, providing separation of said plurality of sample nodes.

42. (Currently Amended) The ~~computerized~~ method of claim **41**, further comprising providing results of said selected analysis and data related to said selected analysis to said remote client.

43. (Currently Amended) The ~~computerized~~ method of claim **41**, further comprising transmitting control signals to a sample carrier retrieval device operative to retrieve said sample carrier from a sample carrier receptacle at an archive facility.

44. (Currently Amended) The ~~computerized~~ method of claim **41**, further comprising transmitting control signals to a sample carrier storage device operative to place said sample carrier in said sample carrier receptacle.

45. (Currently Amended) The ~~computerized~~ method of claim **41**, further comprising transmitting control signals to a sample node removal device operative to locate and to remove said selected sample node from said sample carrier.

46. (Currently Amended) A hardware system comprising:

a sample archive including a plurality of sample structures maintained in a predetermined spatial relationship within a sample carrier, each sample structure having an attachment point for removably attaching a corresponding discrete sample node, and a

plurality of discrete sample nodes, wherein each of said plurality of discrete sample nodes comprises a sample support medium constructed and operative to contain a biological sample in desiccated form for long-term storage;

means for selectively and discretely transferring a sample to each of said plurality of discrete sample ~~node~~ nodes;

a database containing data records associated with samples stored in said archive, wherein each sample is discretely carried in a respective one of said plurality of ~~removably attached~~ discrete sample ~~node~~ nodes in said archive;

means for receiving a request from a remote client, said request containing information related to selected ones of said samples;

a processor responsive to said means for receiving and operative to retrieve from said database data records associated with said selected ones of said samples;

a sample retrieval apparatus responsive to said processor and operative to retrieve said selected ones of said samples;

a sample preparation apparatus responsive to said processor and operative to prepare said selected ones of said samples for analysis; and

means for packaging said selected ones of said samples for shipping to said remote client; wherein said sample retrieval apparatus, said sample preparation apparatus, and said means for packaging are operative at a rate sufficient to retrieve, to prepare, and to package in excess of 100 samples per day.

47.   (Original) The system of claim **46** further comprising means for conducting a selected analysis with said selected ones of said samples and for providing results of said selected analysis to said processor.

48.   (Original) The system of claim **46** wherein said sample retrieval apparatus comprises an optical sensor.

49.   (Original) The system of claim **46** wherein said sample retrieval apparatus comprises a laser.

50. (Original) The system of claim **47** wherein said selected analysis is a genomics experiment.

5 1. (Original) The system of claim **47** wherein said selected analysis is a proteomics experiment.

52. (Original) The system of claim **46** wherein said sample retrieval apparatus, said sample preparation apparatus, and said means for packaging are operative at a rate sufficient to retrieve, to prepare, and to package in excess of 200 samples per day.

53. (Original) The system of claim **46** wherein said sample retrieval apparatus, said sample preparation apparatus, and said means for packaging are operative at a rate sufficient to retrieve, to prepare, and to package in excess of 500 samples per day.

54. (Cancelled)

55. (Cancelled)

56. (Currently Amended) The system of claim **27** wherein ~~said~~ each of said plurality of sample ~~carrier~~ carriers comprises structural elements configured to maintain said plurality of discrete sample nodes in a predetermined spatial relationship with one another.

57. (Cancelled)

58. (Cancelled)

59. (Cancelled)

60. (Cancelled)

61. (Cancelled)

62. (Cancelled)

63. (Cancelled)

64. (Previously Presented) The method of claim **24** wherein said mechanically disrupting includes at least one of one of breaking, clipping and dislodging said corresponding attachment point.

65. (New) The method of claim **1** wherein each of said plurality of discrete sample nodes comprises a porous sample support medium.

66. (New) The method of claim **1** wherein each of said plurality of discrete sample nodes comprises a sample support medium comprising paper or cellulose.

67. (New) The method of claim **1** further comprising allowing said sample to dry and form a desiccated sample after transferring said sample to each of said plurality of discrete sample nodes.

68. (New) The method of claim **14** wherein each of said plurality of discrete sample nodes comprises a porous sample support medium.

69. (New) The method of claim **14** wherein each of said plurality of discrete sample nodes comprises a sample support medium comprising paper or cellulose.

70. (New) The method of claim **14** further comprising allowing said selected sample to dry an form a desiccated sample after transferring said selected sample to said discrete sample node.

71. (New) The system of claim **27** wherein said sample support medium is porous.

72. (New) The system of claim **27** wherein said sample support medium comprises paper or cellulose.

73. (New) The method of claim **41** wherein each of said plurality of discrete sample nodes comprises a porous sample support medium.

74. (New) The method of claim **41** wherein each of said plurality of discrete sample nodes comprises a sample support medium comprising paper or cellulose.

75. (New) The method of claim **41** wherein said discrete sample applied to each of said plurality of sample nodes is desiccated.

76. (New) The system of claim **46** wherein each of said plurality of discrete sample nodes comprises a porous sample support medium.

77. (New) The system of claim **46** wherein each of said plurality of discrete sample nodes comprises a sample support medium comprising paper or cellulose.